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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/550,451	04/17/2000	Dan Davison	CRFY-110	1723
27683	7590	03/03/2004	EXAMINER	
HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100 DALLAS, TX 75202			LIANG, GWEN	
			ART UNIT	PAPER NUMBER
			2172	22

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/550,451

Applicant(s)

DAVISON, DAN

Examiner

GWEN LIANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-10,21,23,26,27,31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-10,21,23,26,27,31 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is responsive to communications: Amendment F, filed on 01/09/2004.

***Claim Objections***

2. Claims 1, 2, 4, 5, 7-10, 21, 23, 26, 27, 31, 33 are objected to because of the following informalities:

With regard to independent claim 1, the subject matter "the multiple hierarchies", in line 10, should be changed to "the multiple simultaneous hierarchies" to clearly identify the antecedent.

Claims 21, 31 and 33 are similarly objected based on the reasons given for claim

- 1.

With regard to independent claim 1, the subject matter "each entry", in line 15, is unclear to the Examiner which "each entry" the applicant is referring to, i.e. each entry in a first database table (line 6), each entry in a second database table (line 8), or each entry in a third database table (line 12).

With regard to independent claim 21, the claim language "associated with each member", in line 6, does not clearly describe what is associated with each member. The Examiner proposes to amend the claim language to read ", wherein the data is associated with each member".

With regard to independent claim 21, the subject matter "members", in line 11, should be changed to "the members" to clearly identify the antecedent.

With regard to independent claim 23, the verb "comprise", in line 8, contains grammatical errors because this verb describes "each of the multiple entries" and should be changed to "comprises".

With regard to independent claim 23, the preposition "than", in line 19, is an improper use of English language and should be changed to "from that".

With regard to independent claim 31, the subject matter "the data structure", in line 4, should be changed to "the relational data structure" to clearly identify the antecedent.

With regard to independent claim 31, there is an inappropriate line break after "each object is", at the end of line 7. The line break should be removed

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 2, 4, 5, 7-10, 21, 31, 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In independent claim 1, the claimed subject matter "each entry being a summary of said data from a plurality of entries from said second database table" is not described in the specification in the same way as in the claim. For example in the specification page 5 lines 1-3, "A third table of hierarchy 30 is a summary of all the various possible database structural relationships to which the elements from second table 20 can be summarized"; Also the example given in the specification, page 5 lines 13-17, wherein "summarizing the data from the first table 10" clearly illustrates that the summary in the third table is a result of summarizing the data from the first table not from the data in the second table as claimed.

In independent claim 21, the claimed subject matter "each hierarchy summarizing a reporting relationship in said table of reporting relationships" is not described in the specification in the same way as in the claim. For example in the specification page 5 lines 1-3, "A third table of hierarchy 30 is a summary of all the various possible database structural relationships to which the elements from second table 20 can be summarized"; Also the example given in the specification, page 5 lines 13-17, wherein "summarizing the data from the first table 10" clearly illustrates that the summary in the third table is a result of summarizing the data from the first table not from the data in the second table as claimed.

In independent claim 31, the claimed limitation "the storing is performed regardless of whether the data stored in the first entry is unique with respect to the data stored in the second entry" is not sufficiently supported by the teaching in the specification.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 23, 26, 27, 31, 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding independent claim 23, the claimed subject matter "a summary of the first and second hierarchies" renders the claim indefinite because it is unclear whether "a summary" refers to a summary of the first and second hierarchies respectively (i.e. two summaries) or a summary of the first and second hierarchies as a whole (i.e. one summary).

Regarding independent claim 31, the claimed subject matter "storing a summary of each of the multiple hierarchies" renders the claim indefinite because it is unclear whether there is only one summary to be stored or multiple summaries to be stored. And it is also unclear what "summary" refers to. Is it a summary description in text or is it a summary of data values based on calculation?

Claim 33 is similarly rejected based on the reasons given for claim 31.

### ***Response to Arguments***

7. Applicant's arguments regarding all pending claims filed on 1/9/2004 have been fully considered but they are moot by reasons given above for the rejections of claims 1, 2, 4, 5, 7-10, 21, 31, 33 under 35 U.S.C. 112, first paragraph, and those of claims 23,

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26, 27, 31, 33 under 35 U.S.C. 112, second paragraph. Examiner is unable to discern the definition of "summary" or "summarizing" claimed in Applicant's pending claims.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 23, 26, 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Uppala (U.S. Patent No. 6,279,007).

With respect to claim 23, Uppala discloses a method ...comprising:

creating a first table having multiple entries, each entry including at least some of the plurality of objects and associated data to be accessed, wherein the first table associates each of the plurality of objects with an object identifier (See for example: Fig. 7A, wherein each object is identified by a Node ID; col. 10 lines 39-46), and wherein the creating includes populating the first table with the associated data (See for example: Fig. 7A);

creating a second table, wherein each parent-child relationship is represented by associating the object identifier of each parent object with the object identifier of each related child object and indicating that each parent-child relationship is associated with the first hierarchical relationship, so that multiple simultaneous hierarchies can be

defined using the relational data structure without needing dedicated database relationships between objects in the multiple hierarchies (See for example: Fig. 7B, wherein the parent-child object relationship is identified in the column Hierarchical Value and is associated with a hierarchy identified by Hierarchical Value ID, wherein simultaneous hierarchies such as A/B/C and A/C can be defined using the relational data structure.);

defining a second hierarchical relationship in the second table using the plurality of objects included in the first hierarchical relationship, wherein the second hierarchical relationship is defined by:

creating at least one different parent-child relationship than is present in the first hierarchical relationship; and indicating that the different parent-child relationship is linked to the second hierarchical structure (See for example: FIGs. 6 and 7B, 1001 (A)-1002 (B)-1003 (C)-1004 (D) and 1001 (A)-1002 (B)-1004 (D)); and

creating a third table, wherein the third table includes a summary of the first and second hierarchies (See for example: FIG. 7C.).

Claim 26 is rejected for the reasons set forth hereinabove for claim 23 and furthermore Uppala discloses a method comprising retrieving data associated with at least one of the plurality of objects in a single round trip (See for example: col. 12 line 59 – col. 13 line 19).

Claim 27 is rejected for the reasons set forth hereinabove for claim 23 and furthermore Uppala discloses a method comprising indicating whether each parent-child relationship is direct or indirect (See for example: FIGs 6 and 7B).



***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 2, 4, 5, 7-10, 21, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uppala (U.S. Patent No. 6,279,007), and further in view of Inoue et al., "Inoue" (U.S. Patent No. 6,336,123).

With respect to claim 1, Uppala discloses a method ...comprising:

forming a first database table having a plurality of entries, each entry representing an object with an associated data to be accessed (See for example: col. 6 lines 46-49; "The invention uses three data structures, shown as database tables in FIGS. 7A, 7B and 7C, to manage hierarchical values: node table 700, hierarchy value table 710 and hierarchy parent table 720."; col. 6 lines 51-60, "For each unique node value, the invention uses a first hashing algorithm to generate a node hash value 705 that identifies a row 701 in the node table 700. The invention assigns a unique node identifier 703 to the node value and stores the node identifier 703, the node hash value 705, and the node value 707 in the row 701 identified by the node hash value 705. In the embodiment shown in FIG. 7A, the node identifiers 703 are stored as binary numbers but a decimal format is used for clarity in explanation."; col. 10 lines 39-46, "The hierarchical values 717 for the parent and child in each pair are used to retrieve

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the corresponding hierarchical value identifiers 713 (block 948), referring again to the description of FIG. 9D, and a row 721 is stored in the hierarchy parent table 720 for each parent-child pair (block 953). The data warehouse manager 811 continues to expand hierarchical values into parent-child pairs until no unique parent child pairs remain to be processed.", wherein the data stored in the table are accessed; and also see Fig. 11A);

forming a second database table having a plurality of entries, each entry defining a relationship between at least some of said plurality of objects, wherein each entry is associated with at least one of the multiple hierarchies (See for example: FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined.);

forming a third database table, said third database table having a plurality of entries, each entry being a summary of said data from a plurality of entries from said second database table (See for example: FIG. 7C.); and

designating a parent-child relationship between a first object and a second object in each entry (See for example: Fig. 7B, wherein parent-child relationship is defined).

However Uppala does not explicitly disclose a parent-child relationship, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry.

Inoue discloses a parent-child relationship, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry

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(See for example: col. 20 lines 8-10, wherein it is obvious that a parent-child relationship between two objects is reversible because the user can arbitrarily change a relationship between a parent node and a child node. Fig. 13, wherein a link from node id1 to node id2 and a link from node id2 to node id1 both exist to illustrate the reversible relationship).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporating a method providing reversible parent-child relationship as disclosed by Inoue into the method of creating parent-child relationship entries in a database table as disclosed in Uppala to provide a hyper-text document preparing apparatus in which relationships among a plurality of hyper-text documents are easily grasped by a hyper-text document preparing person and a hyper-text document reader and the link structure of hyper-text documents is easily handled (See for example: col. 3 lines 40-45). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein each of said plurality of relationships is defined between a pair of said objects (See for example: FIG. 7B.).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein said plurality of relationships include single parent and multiple parent hierarchies (See for example: FIGs 6 and 7B.).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein said plurality of relationships include tree type structures (See for example: FIG. 6).

Claim 7 is rejected for the reasons set forth hereinabove for claim 5 and furthermore Uppala discloses a method wherein each entry in said second database table defines a relationship between a pair of said objects (See for example: FIG. 7B.).

Claim 8 is rejected for the reasons set forth hereinabove for claim 7 and furthermore Uppala discloses a method wherein said relationship is between a parent and a child (See for example: FIGs. 6 and 7B.).

Claim 9 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Uppala discloses a method wherein each entry in said second database table further defines a direct or indirect parent-child relationship (See for example: FIGs 6 and 7B):

Claim 10 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Uppala discloses a method wherein each entry in said second database table further comprises a definition of a database structure to which said relationship is a part thereof (See for example: FIGs 7B, 7C, 11B and 11C.).

Claim 21 is rejected on grounds corresponding to the reasons given above for claim 1, and furthermore, Uppala discloses a method ...comprising:

forming a table of members available in the multiple simultaneous hierarchical database relationships and data to be accessed associated with each member (See for example: col. 6 lines 46-49; col. 10 lines 39-46); and

forming a table of reporting relationships among the members available in the multiple simultaneous hierarchical database relationships (See for example: FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined.); and

forming a table having a set of hierarchies, each hierarchy summarizing a reporting relationship in said table of reporting relationships (See for example: Fig. 10, Fig. 11A and Fig. 11B, wherein each hierarchy corresponds to a reporting relationship, such as .Topics/Sports and Topics/Arts/Music; and also FIGs. 7C and 11C.).

Claim 31 is rejected on grounds corresponding to the reasons given above for claim 23, and furthermore, Uppala discloses a relational data structure ...comprising:

a first table for:

organizing a plurality of objects into at least first and second entries, wherein each object is related to at least one other object by a defined relationship (See for example FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined) ; and

storing an object identifier associated with each of the plurality of objects (See for example: FIG.7A, wherein Node ID is equivalent to an object identifier.); and

storing associated data to be accessed for each object identifier (See for example: Fig. 7A and 7B; col. 10 lines 39-46), and

a second table for:

associating the object identifier of each of the plurality of objects with the object identifier of each related object to represent each defined relationship (See

for example: Fig. 7B, wherein the parent-child object relationship is identified in the column Hierarchical Value and is associated with a hierarchy identified by Hierarchical Value ID, wherein simultaneous hierarchies such as A/B/C and A/C can be defined using the relational data structure.);

storing a hierarchy identifier associated with each relationship for indicating that each relationship is associated with a particular one of the multiple hierarchies (See for example: FIG.7B, wherein a Hierarchical Value ID such as 10007 serves as a hierarchy identifier in identifying a particular relationship of 1001-1003.); and

a third table for storing a summary of each of the multiple hierarchies (See for example: FIG. 7C.).

However Uppala does not explicitly disclose a data structure wherein the storing is performed regardless of whether the data stored in the first entry is unique with respect to the data stored in the second entry.

Inoue discloses storing in each node (equivalent to each table entry) with data regardless of whether the data is unique for multiple entries (See for example: Abstract, wherein it is obvious that the data associated with each node is populated and stored regardless of whether it is unique among the multiple nodes because the contents of each node indicates a plurality of hyper-text documents).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporating a method of storing data in entries of a table regardless of its uniqueness as disclosed by Inoue into the method of storing associated

data for each object identifier as disclosed in Uppala to provide a hyper-text document preparing apparatus in which a degree of freedom for the expression of hyper-text documents is high (See for example: col. 3 lines 27-31). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 33 is rejected for the reasons set forth hereinabove for claim 31 and furthermore Uppala discloses a data structure wherein the third table comprises a plurality of rows and wherein each of the plurality of rows summarizes one of the multiple hierarchies (See for example: FIG. 7C.).

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

ITO, JP Patent JP411031147: A data management system that simplifies the reconstitution work of tree structure by completing the change of tree structure only by means of exchanging the numbers of nodes associated to the respective nodes.

ISHII, JP Patent JP362054328: A concept detailing structure that allows for omitting the preceding understand of relevant information by storing relevant information indicating the parents, brothers and children of a tree structure and adding or deleting meaning information consisting of the stored information and nodes to form and edit the tree structure.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

G.L.  
27 February 2004



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PRIMARY EXAMINER